



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/570,114	11/06/2006	Dong Gyu Lee	05-499-B	5284
20306 7590 09/29/2008 MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP 300 S. WACKER DRIVE 32ND FLOOR CHICAGO, IL 60606				
EXAMINER MCLEARN, STEPHANIE D				
ART UNIT		PAPER NUMBER		
4157				
MAIL DATE		DELIVERY MODE		
09/29/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/570,114

Applicant(s)

LEE, DONG GYU

Examiner

STEPHANIE MCLAREN

Art Unit

4157

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gillen (2002/0038550) in view of Yamada et al. (6,233,944).

With regards to claim 1, Gillen discloses: a compact thermal exchange device for thermoelectric cooling mode, the device comprising: a thermal electric cooling unit formed around a center of the compact thermal exchange device (see abstract); two housing walls (3, cold side cover, 4, hot side cover), each of the housing walls being installed on the upper side and the lower side of the thermal electric cooling unit, respectively (see fig. 3); an external fan provided over the fins (46, cold side fan, see fig. 3, pg. 6, paragraph 65, line 2); and an internal fan provided under the fins (69, hot side fans, see fig. 3, pg. 7, paragraph 71, line 3).

Gillen fails to disclose: two plates in the thermal electric cooling unit, each of the plates being formed on an upper side and a lower side of the unit, respectively; a plurality of heat pipes directly inserted into the plates; a plurality of fins formed on the heat pipes.

Yamada et al. teach two plates in the thermal electric cooling unit, each of the plates being formed on an upper side and a lower side of the unit, respectively (in one embodiment, 8, 8-2, see fig. 4); a plurality of heat pipes (9) directly inserted into the plates (8, 8-2)(col. 6, line 1-6); a plurality of fins (Fi) formed on the heat pipes(col. 6, line 8-9). Yamada et al. further teaches this arrangement provides efficient heat transfer (column 2, lines 15 to 25).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Gillen by replacing the heat sink and fin arrangement by the heat pipe and fin arrangement as taught by Yamada et al. in order to provide efficient heat transfer as taught by Yamada et al.

Additionally, the substitution of one known element (the heat pipe and fin arrangement as shown by Yamada) for another (the heat sink and fin arrangement as shown by Gillen) would have been obvious to one of ordinary skill in the art at the time of the invention since the substitution of the heat pipe and fin arrangement of Yamada would have yielded predictable results, namely, an efficient heat transfer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHANIE MCLAREN whose telephone number is (571)270-7127. The examiner can normally be reached on Monday - Friday 7:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marvin Lateef can be reached on (571) 272-5026. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SDM/

9/24/08
/Zelalem Eshete/
Primary Examiner, Art Unit 3748